

Mishina, et al.
USSN 09/786,309
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10. (new) The method of claim 8 or 9 wherein the psoralen derivative is 4,5',8-trimethylpsoralen.

11. (new) The method of claim 8 or 9 wherein the psoralen derivative is 4,5',8-trimethylpsoralen and the vertebrate animal is zebrafish.

12. (new) The method of claim 8 or 9 wherein the mutagenesis is introduced into a region containing a pyrimidine base.

A¹ cont'd
~~13.~~ (new) A method for preparation of a mutated gene of a vertebrate animal, comprising the steps of:

- a) treating a germ cell of the vertebrate animal with a psoralen derivative;
- b) irradiating the treated germ cell with a high-energy beam; and
- c) subjecting the irradiated germ cell to artificial fertilization to induce mutagenesis in an embryo.

14. (new) The method of claim 13, wherein the germ cell is sperm.

15. (new) The method of claim 13 or 14 wherein the psoralen derivative is 4,5',8-trimethylpsoralen.

16. (new) The method of claim 13 or 14 wherein the psoralen derivative is 4,5',8-trimethylpsoralen and the vertebrate animal is zebrafish.

17. (new) The method of claim 13 or 14 wherein the mutagenesis is introduced into a region containing a pyrimidine base.

~~18.~~ (new) A method for analyzing the function of a gene of a vertebrate animal, comprising the steps of:

- a) treating a germ cell of the vertebrate animal with a psoralen derivative;